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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------|
| 10/802,892  | 03/17/2004  | Albert Kiessling     | 442-209                        | 5284             |
| 23869   | 7590        | 10/17/2005           |                                |                  |
| HOFFMANN & BARON, LLP<br>6900 JERICHO TURNPIKE<br>SYOSSET, NY 11791 |             |                      | EXAMINER<br>SCHINDLER, DAVID M |                  |
|   |             |                      | ART UNIT                       | PAPER NUMBER     |
|   |             |                      | 2862                           |                  |
| DATE MAILED: 10/17/2005   |             |                      |                                |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                  |  |
|------------------------------|-------------------------------|----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/802,892 | Applicant(s)<br>KIESSLING ET AL. |  |
|                              | Examiner<br>David Schindler   | Art Unit<br>2862                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/17/2004</u> .   | 6) <input type="checkbox"/> Other: ____.                                    |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the guard tube arranged along the working stroke of an actuator on the housing of the actuator device of Claim 10 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the phrase "Figure 2" that appears at the bottom of the page should be removed. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

4. Claims 1, 2, 3, 8, 11, 13, 14, and 18 are objected to because of the following informalities:

As to Claim 1,

It is unclear what which feature of claim 1 "is connected electrically with the return guide." For the purpose of examination, Examiner is assuming that applicant means to claim that it is the wave guide that "is connected electrically with the return guide."

The phrase "in the case of which a measurement means is provided for the position" on lines 10-11 is awkward and unclear as the relationship between the measurement means and the position is not clear.

The phrase "the position" on line 13 lacks antecedent basis.

The phrase "the transit time" on line 14 lacks antecedent basis.

As to Claims 2 and 3,

The phrase "the act of arrangement" on lines 1-2 of Claims 2 and 3 lacks antecedent basis.

The phrase "the ends" on lines 2-3 of Claim 2 and line 4 of Claim 3 lacks antecedent basis.

As to Claim 8,

The wording of this claim is awkward and unclear. For the purpose of examination, the Examiner is interpreting the claim to mean that the wave guide is arranged in such a manner that the ultrasonic wave may be propagated while still allowing for oscillations on the housing of the actuator device.

As to Claim 11,

The wording of this claim is awkward and unclear.

As to Claim 13,

The phrase "the working stroke, of the wave guide" on lines 3-4 is unclear. For the purpose of examination, the Examiner has interpreted the above phrase to instead mean "the working stroke of the actuator."

As to Claim 14,

The phrase “in the case of which a measurement means is present for the position” on lines 10-11 is awkward and unclear as the relationship between the measurement means and the position is not clear. Furthermore, the term “present” on line 11 is awkward, and it is recommended to use the same terminology found in claim 1 which uses the term “provided” on line 12.

The phrase “the transit time” on line 12 lacks antecedent basis.

The phrase “at least one partly and directly” on line 14 is unclear.

As to Claim 18,

The phrase “position data respecting” on line 3 is awkward and unclear.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-6, 8, 9, 12-15, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ehling (6,351,117).

As to Claim 1,

Ehling discloses an actuator movably arranged in a housing ((Figure 1) and (Column 6, Lines 16-28 / note piston head within a cylinder of a machine)), and a position detecting means (10), in the case of which by means of an exciting current (39)

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(Column 6, Lines 51-53) available from a current source (54) a concentric magnetic field may be produced (Column 6, Lines 58-59) in a magnetostrictive wave guide (16) for arrangement on a measurement path along a working stroke of the actuator ((Figure 1) and (Column 6, Lines 16-28 / note piston head within a cylinder)), such magnetic field being able to be so influenced by a position indicating magnet (19) arranged on the actuator that an ultrasonic wave is produced deforming the wave guide ((Column 6, Lines 58-62) and (Page 9, Lines 1-7 of Applicant's Specification, note Wiedemann effect)), and in the case of which a measurement means is provided for the position of the position indicating magnet on the basis of measurement of the transit time of the ultrasonic wave ((Column 6, Lines 51-67) and (Column 7, Lines 1-67)), wherein the wave guide and a return guide (18) for the reflux of the exciting current to the current source are made available to a predetermined suitable degree for different lengths of measurement path at an assembly stage, at which the actuator device is mounted and the wave guide is cut to a length on the assembly stage suitable for the measurement path of the respective actuator device to be produced and is connected electrically with the return guide ((Column 1, Lines 50-64) and (Column 2, Lines 21-32) and (Column 2, Lines 56-57) and (Column 3, Lines 21-27) and (Column 6, Lines 1-4) and (Column 6, Lines 51-53)).

As to Claim 2,

Ehling discloses the act of arrangement on the assembly stage is such that the ends to be connected of the wave guide and of the return guide are open ((Figure 1) and (Column 6, Lines 1-4)).

Note the above ends must have been open prior to assembly, see Figure 1.

As to Claim 3,

Ehling discloses the act of arrangement on the assembly stage is such that ends (left side connection between (18) and (16) of Figure 1), which are opposite to the ends to be connected of the wave guide and of the return guide (right side connection between (18) and (16) of Figure 1), of the wave guide and of the return guide are pre-fitted on the measurement means and the current source ((Figure 1) and (Column 6, Lines 1-4) and (column 6, Lines 51-57)).

Note that ends must be pre-fitted in order to be able to connect to the measurement means and the current source.

As to Claim 4,

Ehling discloses the wave guide is connected by a contact terminal arrangement to the return guide ((Figure 1) and (Column 6, Lines 1-4)).

As to Claim 5,

Ehling discloses the bushing is designed in the form of an oscillation damper for the ultrasonic wave ((Column 6, Lines 10-14) and (Column 7, Lines 9-12) and (Figure 1) and (Page 9, Lines 1-7 of Applicant's Specification, note Wiedemann effect)).

As to Claim 6,

Ehling discloses an oscillation absorbing means is arranged at an end, which is remote from the measurement means, of the wave guide for damping the ultrasonic wave ((Column 6, Lines 10-14) and (Column 7, Lines 9-12) and (Figure 1) and (Page 9, Lines 1-7 of Applicant's Specification, note Wiedemann effect)).



As to Claim 8,

Ehling discloses the wave guide is arranged in such a manner allowing oscillations on the housing of the actuator device that the ultrasonic wave may be propagated ((Figure 1) and (Column 6, Lines 16-28 / note piston head within cylinder of a machine) and (Column 6, Lines 58-62)).

As to Claim 9,

Ehling discloses the wave guide and return guide are at least partly arranged in a groove extending along the working stroke of the actuator, in the housing of the actuator device ((Figure 1) and (Column 5, Lines 44-53) and (Column 6, Lines 16-28 / note piston head within cylinder of a machine) and (Figure 7) and (Column 5, Lines 6-10)).

As to Claim 12,

Ehling discloses the measurement means (30) is arranged on the actuator device and more especially on a housing cover of the actuator device ((Figures 1) and (Column 5, Lines 45-50)).

Also note Figure 7 and Column 5, Lines 6-10 with regard to the above claimed matter.

As to Claim 13,

Ehling discloses the measurement means is set by calibration to a length corresponding to the length of the working stroke of the actuator ((Column 11, Last three lines) and (Column 12, Lines 1-51)).

As to Claim 14,

Ehling discloses an actuator (702) movably arranged in a housing (700) and adapted to be moved, more particularly by fluid power ((Figure 7) and (Column 17, Lines 53-67)), and a position detecting means (Figure 7), in the case of which using an exciting current (752), provided by a current source (750), in a magnetostrictive wave guide (710), which is arranged along a working stroke of the actuator (Figure 7), a concentric magnetic field may be produced (Column 6, Lines 58-59), such field being able to be so influenced that an ultrasonic wave is produced with a deformation of the wave guide ((Column 18, Lines 16-25) and (Page 9, Lines 1-7 of Applicant's Specification, note Wiedemann effect) and (Column 6, Lines 58-62)) and in the case of which a measurement means is present for the position of the position indicating magnet with the aid of measurement of the transit time of the ultrasonic wave ((Column 17, Lines 60-63) and (Column 18, Lines 44-67)), wherein the wave guide and the return guide (711) are arranged at least one partly and directly without a separate guard tube in a groove (Figure 7), which extends along the working stroke of the actuator, in the housing of the actuator device (Figure 7) (Column 5, Lines 6-10)).

As to Claim 15,

Ehling discloses the wave guide is constituted by a wire ((Figures 1 and 7) and Column 5, Lines 6-10)).

As to Claim 18,

Ehling discloses a signaling means (730) for the supply of discrete position data respecting the position indicating magnet ((Figure 7) and (Column 7, Lines 60-63) and (Column 19, Lines 1-18)).

As to Claim 19,

Ehling discloses an output means for the output of substantially continuous position data with respect to the position indicating magnet (Column 12, Lines 52-61).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehling (6,351,117) in view of Aruga et al. (herein referred to as "Aruga") (5,041,935)

Ehling discloses as explained above.

Ehling further discloses "a damper, which is preferably made of a silicone, rubber or other material which can absorb mechanical waves ..." (Column 6, Lines 11-13).

Ehling does not explicitly disclose for damping oscillations a drop of an adhesive composition is applied to the wave guide.

Aruga discloses suppressing an oscillation by a damper formed of an elastic adhesive layer ((Column 3, last line) and (Column 4, Lines 1-3).

It would have been obvious to a person of ordinary skill in the art to modify Ehling to include for damping oscillations a drop of an adhesive composition is applied to the wave guide given the above disclosure and teaching of Aruga in order to minimize interference from wave reflections (see Ehling, Column 6, Lines 14-15).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehling (6,351,117) in view of Moreau et al. (herein referred to as "Moreau") (5,717,330).

Ehling discloses the wave guide and the return guide are arranged in a guard tube (12) and wherein the guard tube is arranged along the working stroke of the actuator ((Figure 1) and (Column 6, Lines 16-28 / note piston head within cylinder of a machine)).

Ehling does not disclose the guard tube is arranged on the housing of the actuator device.

Moreau discloses the guard tube (60) is arranged on the housing of the actuator device (Figure 5).

It would have been obvious to a person of ordinary skill in the art to modify Ehling to include the guard tube is arranged on the housing of the actuator device as taught by Moreau in order to help prevent any debris inside the housing from affecting the wave guide and return guide.

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11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ehling (6,351,117) in view of Takatsuka et al. (herein referred to as "Takatsuka") (6,053,976).

Ehling discloses a groove (See Claim 9 Rejection Explanation).

Ehling does not disclose the groove is filled with a composition which is elastic as regards the transmission of oscillations.

Takatsuka discloses the groove is filled with a composition which is elastic as regards the transmission of oscillations (Column 12, Lines 5-14).

It would have been obvious to a person of ordinary skill in the art to modify Ehling to include the groove is filled with a composition which is elastic as regards the transmission of oscillations as taught by Takatsuka in order to help secure the inside of the groove. (Note Column 12, Lines 11-14 which discusses sealing performance).

12. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ehling (6,351,117).

As to Claim 16,

Ehling discloses as explained above.

Ehling discloses a wave guide connected with a return guide (Figure 7).

Ehling does not explicitly disclose that the wave guide and return guide are connected by welding and/or soldering and or by means of a bushing.

However, the Examiner notes that it is well known to connect two wires together by such means as welding or soldering, the purpose of which is to allow a signal to travel through the connected wires. An example of such is found in Ehling on lines 13-

25 of column 18 which discloses a pulse is transmitted to a conductor (711 / return guide) which conducts the pulse through the wave guide. Also note lines 1-4 of column 4 of Ehling. (See MPEP 2144.03).

As to Claim 17,

Ehling in the Figure 7 embodiment does not disclose the bushing constitutes a component of an oscillation absorbing means.

Ehling in the Figure 1 embodiment discloses an oscillation absorbing means ((Figure 1) and (Column 7, Lines 9-12)).

It would have been obvious to a person of ordinary skill in the art to modify Ehling in the Figure 7 embodiment to include the bushing constitutes a component of an oscillation absorbing means given the above disclosure and teaching of Ehling in the Figure 1 embodiment in order to prevent a component of a wave from reflecting and possibly interfering with future measurements (Column 7, Lines 9-12).


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
David Schindler  
Examiner  
Art Unit 2862

DS

  
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